

### **Remarks.**

Applicant appreciates the considered Office Action rendered by the Examiner dated July 21, 2003. The Examiner's specific references to column and line numbers as well as the clarity of that action is most appreciated and welcome.

In response to that Office Action and pursuant to the provisions of 35 U.S.C. § 132, applicant does, however, persist in his claim for a patent and respectfully requests re-examination with amendment of some of the claims as set forth above.

### **Applicant's Response to Claim Objections.**

Claims 7, 9 and 17 have been amended to obviate the objection stated in the Official Action. As amended, each of these claims further limit the claims from which they now depend.

### **Applicant's Response to Rejections Under 35 USC § 112.**

The rejection of claims 42-46 and 50 under 35 USC § 112 have been obviated by amendment of the preamble of Claim 41. This amendment to Claim 41 provides proper antecedent support for the phrase "digital identifier" in the dependent claims.

### **Applicant's Amendments as to Form.**

Applicant has made several voluntary amendments to the claims to better define the scope of his inventions, to insure consistency of terminology within the independent and their dependent claims, to provide clear antecedent support and to avoid and subsequent assertions of vagueness in interpretation. Such amendments were not made for the purpose of limiting the scope of the claims, were not necessitated by statute, by the prior art or by the examiner's Official Action. In addition, claims 16, 18 and 21 were amended to rely, at least in part, upon

the “means for” language of 35 U.S.C. § 112. The purposes of this amendment was to avoid any suggestion or argument of abandonment of any part of Applicant’s inventions and to avoid an infringer’s reliance upon *Johnson & Johnson Asso. v. R.E. Serv. Co.*, 285 F.3d 1046 (Fed. Cir. 2002)—a case decided subsequent to the filing date of this application.

**Applicant’s Response to Rejections under 35 USC § 102.**

The Examiner’s rejection of claims 8, 10-15, 25-31 41-49 and 51-53 for anticipation premised upon the Fachinger et al reference are not well supported in law or in fact. Indeed, the statute, 35 U.S.C. § 102 requires that every limitation of the claim appear in a single prior art reference. *See In re Bond*, 910 F.2d 831, 832, 15 USPQ2d 1566, 1567 (Fed. Cir. 1990); *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251 (Fed. Cir. 1988); *Gechter, et. al. v. Davidson, et. al*, 116 F.3d 1454 (Fed. Cir. 1997).

Contrary to this required law, Fachinger spectral device does not disclose numerous limitations of most of the rejected claims, either before or after the voluntary amendments made by the applicant. Instead, he teaches and requires the development and used of an electronic data base of spectrums for comparison and identification of objects. For example, Fachinger, at column 3 specifies the use of memory for “stored” spectra which are in a “file contained in associated memory.” See Col. 3, lines 65-68 and Col. 4, lines 10-14. Unlike Fachinger, Applicant avoids the cost of a pre-developed data base. Instead, he uses (and claims), not a data base or file, but a “sample” from the population to be investigated. Indeed, independent claims 8, 10, 13, 25 and 28 all contain limitations relating to the use of a sample from the population for the comparison. This limitation cannot be found in Fachinger—and hence the rejection is misplaced. *See In re Bond*, 910 F.2d 831, 832, 15 USPQ2d 1566, 1567

(Fed. Cir. 1990); *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251 (Fed. Cir. 1988); *Gechter, et. al. v. Davidson, et. al*, 116 F.3d 1454 (Fed. Cir. 1997) cited above.

Another limitation in some of the independent claims that is not disclosed by Fachinger is the claimed use of an algorithm containing a regression analysis. Such a limitation is explicitly recited (or amended to be included) in claims 10, 43, 48 and 51. Yet, it cannot be found in Fachinger. In light of this missing limitation in Fachinger, the “anticipation” rejection should be withdrawn.

And yet, another limitation of many of Applicant’s independent claims relates to the low cost, high speed features of his invention. On this record, he is clearly the first to discover that a simple chip such as a microcontroller, digital signal processor or simple circuit board with a microprocessor has the capacity to receive spectral distributions of light from a sensor array and to compare them against a sample or data sample distribution at high speeds. Indeed, it is, in part, this low cost, high speed development that is contained in many of Applicant’s claims. See claims 10, 13, 25, 41, and 47 which either contain such a limitation or is presently amended to contain it. Unlike Applicant’s invention, Fachinger teaches something very different, *i.e.*, he requires a “plurality of electronic boards” or a “microcomputer (7). See lines 62-63, column 3 and line 38, column 4. Clearly, Fachinger fails to disclose the low cost, simplistic structural features of Applicant’s claimed inventions.

Critically, there are major limitations in Applicant’s independent claims that are not disclosed by Fachinger. Moreover, applicant’s dependent claims cite additional limitations that cannot be found in the reference. Under these circumstances, the § 102 rejection of Fachinger is misplaced. Applicant respectfully suggests that it should be withdrawn.

The Examiner's rejections of claims 16, 18, 21, 22, and 24 because of anticipation premised upon the Wright *et. al* reference are not supported by law or fact. Indeed, on belief, the Examiner has misread the Wright reference. That reference first teaches the transmission of light by a fiber optic cable. The material identified in the Official Action in column 5 states:

The monochromator 32 is connected to a sensor head 36 by a bundle of fiber optic cables 34. Column 5, lines 58-60.

Later, at column 8, lines 15-30, Wright discloses a cable 94 that interconnects the monochromator to the computer. In this later reference, Wright does not disclose what is being transmitted. Nor, does he identify the equipment that is used to effect the transmission. Clearly, Wright does not disclose the limitations of the Applicant's claims. For example, Wright does not show the "wireless" limitation of claims 16 and 21 or the "controller means" of claims 16 and 18. He also fails to suggest analog transmission, or digital transmission.

Significantly, Applicant's claims for transmission of the spectral information of plants and tissue resulted in a significant advance in agricultural and medical practices. His inventions and the disclosure teaches that, with a low cost instrument, one can transmit a plant's conditions for miles to a distant laboratory for an immediate analysis of the plant's conditions and needs for fertilizers, herbicides, fungi treatments, etc. Plants no longer have to be cut and taken to the laboratory where, after the cutting, their condition has changed and the spectral analysis may no longer be valid. The same is true in a patient's room in a hospital. The physician can wirelessly transmit a spectral distribution of a tissue to a pathology lab for analysis and obtain more accurate results far faster and at lower cost than ever before. Wright has no such capabilities, provides no such benefits, and lacks the necessary disclosure of the distinguishing limitations of

Applicants claims. Without question, the rejection should be withdrawn.

The rejection of claims 33 and 34 premised upon Kelderman are premised upon a miscomprehension of these claims and Applicant's invention. Kelderman discloses a light that can be seen through the eyepiece 78 for the purpose of identifying the spot on the object that is subject to measurement. See Col 10, lines 9-14. Applicant's invention is very different, if not the exact opposite. Applicant's problem, in the first instance, was to align or aim the sensing unit to focus on an area, or line or a point. Thus, with the aiming light, one could rotate or shift the sensing units to focus on a specific area, line or point. This invention, as claimed, has been amended to reflect that the light is one for aiming the sensing unit at a target.

Contrary to Applicant, Kelderman wishes to view the magnified image of the illuminated object—and then move that object (not the sensing unit) to place a particular spot under the lens. The devices are inapposite. Kelderman moves the object, Applicant alligns the sensor. On belief, the claim amendment makes clear this distinction and Applicant's contribution over the prior art.

#### **Applicant's Response to Rejections under 35 USC § 103.**

The obviousness rejections premised on Shestock '209 in view of Shestock '133 are also contrary to law and fact. Indeed, even if the two patents were properly combined, the resulting combination does not meet the amended recitals of the claims. For example, Claims 5, 6 and 21 now call for a "wireless transmission" of the spectral information—and such is not depicted in the references individually or combined. Instead, Shestock references use a docking station approach. Such fails to provide for either a "wireless transmission" or a transmission to a "remote" destination. Moreover, Claim 18 recites a "controller means associated said array for storing and transmitting," by segment, the spectral fingerprint. The

limitations of this “controller means for” limitations or the storing and transmitting limitations cannot be found in any of the prior art. Clearly, as the independent claims contain limitations not found in the individual or in the combined references, the rejection of both the independent and dependent claims is not appropriate. Moreover, and as explained above, nothing in the prior art teaches or suggest the possibility of remotely sampling diseased plants, tissue and objects and transmitting them to a distant location for immediate analysis. On this record, Applicant is the only person with the ingenuity to develop such a beneficial concept for immediate, remote analysis of plants, tissue and objects.

The rejection of claim 32 over Fachinger in view of Shestock ‘133 is not in accord with law or fact. Neither of these references teach or suggest the use of a sample data from the population as the standard against which subsequent objects are to be compared and identified as required by the independent claim 28. Consequently, the mere fact that claim 32 calls for a RS 232 port does not provide a basis for the rejection of the independent claim upon which it is based. The rejection should be withdrawn.

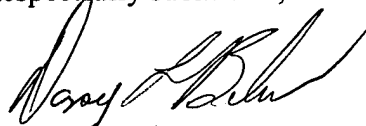
The rejection of claims 35-40 over Feyaerts in view of Kelderman is misplaced. Indeed, **the Feyaerts disclosure of the European patent application is not prior art.** Indeed, it was published in Europe only after Applicant’s effective filing date of June 30, 1999. Moreover, as explained earlier, the Kelderman reference is not pertinent in that it does not disclose an “aiming” light that facilitates alignment of the sensing unit.

In sum and substance, Applicant has made significant and substantial innovations, advancements and contributions in the field of spectral analysis and in the field of medical and agricultural analysis. He is the first to develop a low cost, high speed spectrometer for identifying plants, objects and tissue. Moreover, his low cost unit is premised on a low cost

chip such as a microprocessor or DSP running a regression algorithm whose coefficient of correlation can be varied to identify varying degrees of similarity. He does not require either a separate data base or an associated computer. And importantly, Applicant was the first to provide for wireless transmission of spectral images of plants, tissue and objects for immediate analysis by computers in distant cities. Without question, Applicant's is entitled to a patent and due notice of allowance is respectfully requested.

A Petition for an Extension of Time under 37 CFR 1.136(a) together with a check in the amount of \$210.00 is enclosed to cover the fee for the Extension of Time.

Respectfully submitted,



Dorsey L. Baker  
Attorney for Applicant

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Dorsey L. Baker